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# DANNEMANN SIEMSEN BIGLER & IPANEMA MOREIRA

PROPRIEDADE INDUSTRIAL

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**NATURA COSMÉTICOS S.A.**  
Our ref.: P005042-PCT (MCB)

Dear Sirs,

In response to the first written opinion issued on the above case, the applicant respectfully submits some comments and clarifications in order to show that the subject-matter claimed in the present application is new and inventive over prior art.

According to the Written Opinion the present application is considered lacking novelty and inventive activity over documents US 5,980,871 (D1), US 5,605,652 (D2) and WO 0172276 (D3).

Firstly it is observed that present application claims a oil dispersion wherein all pigments are dispersed in a single phase, which does not happen in the case of the inventions disclosed in D1 and D3.

D1 refers to a cosmetic composition, more particularly to a oil-in-water emulsion comprising two pigments, wherein the oil phase should contain at least two components, namely a oil carrier and an emollient. Moreover, according to that document the process for preparing the emulsion comprises the previous dispersion of titanium dioxide in a oil phase together with a carrier, an emollient and an anionic emulsifier. After such previous dispersion it is mixed with the other composition ingredients.

The dispersion of the present invention contains only one emollient in the oil phase (it contains no oil carrier) and the process for the preparation thereof comprises the addition of the two pigments from the very beginning of the whole process, which is not disclosed in D1. The present dispersion is stable and can be prepared and kept for a

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further use (as a raw-material) without the need of preparing of the dispersion only at the moment of production of the end cosmetic product.

D3 discloses a solid dispersion. Thus the carrier is solid (preferably stearyl benzoate, or behenyl benzoate or arachidyl benzoate) and according to page 14, last paragraph, the solid dispersion defined in that patent application makes the zinc oxide or the titanium dioxide particles more dispersible. In addition, that document presents several examples of dispersion containing either one or the other pigment and there is no mention of a liquid stable dispersion containing both pigments in the same phase as now claimed in the present application.

Therefore, D1 nor D3 anticipates a composition as actually claimed in the present application.

As already mentioned in the present specification, D2 teaches dispersions containing inorganic pigments dispersed in oil phases, apart from disclosing a generic process for preparing said dispersion using, as a physical filter, dispersions of zinc oxide in association or not with titanium dioxide. But although D2 mentions the possibility of using two pigments dispersed in a single oil phase employing just one dispersing agent, Example 1 of that document clearly indicates that each pigment is separately dispersed and only in a further step the two pigments are actually "mixed". Other ingredients are then added to that resulting mixture.

D2 also describes that some portions of titanium dioxide dispersion are mixed with portions of the zinc oxide dispersion in order to produce a mixture of two oxide dispersions, wherein the weight ratio of ZnO:TiO<sub>2</sub> is 1:1 (dispersion 2A) and 3:1 (dispersion 2B). Apart from that, according to example 1 the oil-in-water emulsion comprising 15% of zinc dispersion presented a SPF of 4.5 while for compositions prepared from dispersion 2A and 2B the resulting SPF values were 9.8 and 7.7, respectively.

In Example 3, D2 discloses an oil dispersion of uncoated zinc oxide powder and coated titanium dioxide powder in a ratio of 1:1 using a oil phase comprising mineral oil and triglyceride of caprylic/capric acids together with a polyhydroxy stearic acid dispersant (Solsperse 300). A composition was prepared from the co-dispersion of zinc oxide/titanium dioxide using a composition similar to the one described in Example 1 wherein the zinc oxide dispersion was replaced by said mixed oxide dispersion. The resulting SPF was 10.7.

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Therefore, the teachings of D2 would never lead someone skilled in the art to conclude that the replacement of a conventional dispersion by a mixture of the two oxides in one single phase would produce a composition as claimed in the present application. That is, even if using the oxides dispersed in a single phase in the specific manner taught in D2 someone would not obtain the present composition (dispersion) which comprises coated titanium dioxide and coated zinc oxide in a proportion of 3:1. An oil-in-water emulsion comprising the above dispersion in a concentration of 40% shows a SPF of 30.

Neither D1, D2 nor D3, individually or taken together, would make the present invention obvious for someone skilled in the art.

In view of the clarifications presented above, the applicant respectfully submits that the invention as now claimed is novel and inventive over the prior art represented by D1, D2 and D3.

Very truly yours

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